Confined Space Program

Program: Confined Space

Facility: Waimanalo Gulch Sanitary Landfill

Facility Location: **92-460 Farrington Highway, Kapolei, HI 96707**

PURPOSE

To describe the requirements to identify, evaluate and plan for the safe entry into confined spaces and permit-required confined spaces.

REQUIREMENTS

1. Identify and prepare a written list of all confined spaces within your operations.
2. If employees have access to confined spaces, implement the attached confined space program. Complete the facility-specific information.
3. Any employee, who enters the permit space, or that employee's authorized representative, shall be provided any opportunity to observe all pre-entry and any subsequent testing or monitoring of permit spaces.
4. Using the attached evaluation form, determine which type of confined spaces and entry conditions constitute permit-required spaces.
5. Update the list of confined spaces on an annual basis and when a new confined space is introduced into the operations. Perform an evaluation for new confined spaces.
6. Provide awareness training to all employees about the hazards associated with confined spaces and to stay out of them unless trained as entrants.
7. Provide detailed training for employees and supervisors (entrants, attendants, and entry supervisors) who may be involved in permit-required confined space entries.
8. Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified.
9. Ensure that rescue personnel receive initial and annual training, including drills.

PERMIT-CONFINED SPACES

1. Label all permit-required confined spaces. An alternative means of communicating the danger and identifying confined spaces may be used if labeling is impossible or impractical. Document the rationale for utilizing the alternative methodology.
2. Develop a system to restrict entry into permit- required confined spaces.
3. Utilize the permit for all permit-required confined space entries.

4. For locations where permit confined spaces must be entered, ensure atmospheric testing equipment is available, maintained, and used. Note: Under certain circumstances ventilation may allow reclassification of a permit space to a non-permit required confined space.
5. Make emergency rescue personnel (or local emergency responders) available during permit-required space entry.

GENERAL

A *confined space* is *any* space that is large enough and configured so that an employee can *bodily enter* and perform assigned work, has limited means for entry or exit, and is not designed for continuous employee occupancy. Examples are pump-pits, sewer manholes, tanker trucks and storage tanks.

There are two types of confined spaces – permit required and non-permit required.

All confined spaces are considered to **be *permit required confined spaces*** until evaluations determine that the space is *a* ***non-permit-required space***.

A ***non-permit required*** **confined space** means a confined space that does not contain or have the potential to contain any hazard capable of causing death or serious physical harm.

Under normal solid waste collection activities, we have determined that there is no potential for a hazardous atmosphere inside truck bodies. When the physical hazards have been locked out following proper procedures, the truck body may then be considered a non-permit required confined space and entered without a permit. In addition, by blocking open a truck body tailgate for entry and exit, the truck body may then be configured so that it no longer is considered a confined space.

A ***permit-required*** **confined space** is a confined space that has one or more of the following characteristics: (1) Contains or has the **potential to contain** a hazardous atmosphere; (2) Contains a material that has the potential for engulfing an entrant; (3) Has an internal configuration such that an entrant could be trapped by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section, or; (4) Contains any other recognized serious safety or health hazard, (5) has the potential to contain (1) through (4) and has not be evaluated.

A ***permit-required*** **(attendant-required) confined space is a space that has been evaluated and engineering controls or lockout could not eliminate the hazard.**
It is the policy of **Waimanalo Gulch Sanitary Landfill employees** to avoid entry into confined spaces whenever possible. Employees follow this program if confined spaces must be entered.

CORE PROGRAM

When these hazards are not completely controlled or eliminated prior to entry, an attendant is required before entry. Two employees are needed for entry into a permit-required confined space (also called an attendant-required confined space), one to enter the space (Entrant), and one to stay outside and watch over the safety of the entrant (Attendant).

Responsibility

Management is responsible for administering the confined space entry program. This person identifies confined spaces, coordinates all training, and ensures that the program is implemented. The confined space entry program administrator appoints an individual to be an Entry Supervisor. The Entry Supervisor approves, issues, and signs all entry permits, authorizes entry into permit areas, identifies additional confined spaces, and maintains documentation of all entries. The Entry Supervisor may also act as an attendant for employees making entry into confined spaces.

Management is responsible for conducting work area surveys to identify potential confined spaces, ensuring permit-required confined spaces are labeled, and ensuring the program is implemented for all work in confined spaces.

Attendants are responsible for maintaining constant contact with persons in the confined space, and are also responsible for calling for help.

Emergency rescue team is responsible for being in a standby condition when notified by the entry supervisor that a confined space entry is underway. In the event the rescue team must respond to another call or cannot be on standby, the rescue team must inform the entry supervisor. The supervisor shall terminate the confined space entry until the emergency rescue team is available.

Employees who are trained and authorized may enter confined spaces when the requirements of this program have been satisfied. Employees who are trained as entry supervisors or attendants can also perform this role.

Identify and Post Signs on Confined Spaces

Management or management designees identify and evaluate confined spaces in work areas. See the Appendices for a list of confined spaces at the facility. Post signs or apply labels identifying confined spaces at the entry points for each space.

Identify the Confined Space and the Work to be done. Determine whether it is safe to remove the cover to the confined space. If required, lockout and tagout sources of hazardous energy into the space using the facility lockout and tagout program. If possible, test the initial air before removing the cover. Where practical, the temperature and pressure inside the confined space should approximate the temperature and pressure outside the confined space. Excess pressure can blow the cover off and result in splash or injury.

Prior to the entry, put the following information on the permit:

- The confined space to be entered
- The purpose of the entry
- Hazardous materials to be taken into or hazardous work to be done in the space
- The length of time the permit is in effect.

Note: It is very important to review the hazardous materials taken into or hazardous work done in the confined space. Atmospheric and physical hazards can arise from the work inside the confined space. As an example, chemical solvent vapor concentration could increase and cause someone to pass out and welding could produce a hazardous atmosphere or fire hazard.

Identify Potential Atmospheric and Physical Hazards

Evaluate the confined space for internal and external hazards. Internal hazards include both atmospheric hazards (unsafe or lack of air) and physical hazards.

Atmospheric hazards may include:

- Hydrogen sulfide, methane, and oxygen deficiency from decaying waste, sewage, or stagnant water
- Air contaminants from chemicals used or stored in the space
- Excess oxygen (makes things burn easily)
- Flammable atmospheres containing methane, propane, or other explosive gases
- Combustion by-products like carbon monoxide
- Explosive dust atmospheres

Acceptable levels of atmospheric hazards are listed on the permit. Do not enter confined spaces where air quality is different from normal air (see permit) without first investigating the cause of the problem.

Physical hazards in confined spaces may include:

- Mechanical hazards from fans and other moving parts
- Engulfment, which is being trapped by a liquid or solid material

- Internal structures that could trap an entrant or impair his/her ability to exit the space quickly
- Electrical hazards from unguarded conductors or power sources
- Excessive heat or cold

Entry Procedures

The confined space entry procedures are designed to reduce or eliminate the hazards and if at all possible, reclassify the permit space to a non-permit space. If the space cannot be reclassified to a non-permit space, the permit identifies those items, conditions, and controls necessary to make the entry safe.

The basic process for entry into confined spaces is to:

- Identify the confined space and the work to be done. Evaluate the feasibility of performing the work from outside the confined space.
- If the confined space must be entered, determine if the space is a permit required or non-permit required confined space by identifying potential atmospheric and physical hazards.
- Test the space for atmospheric hazards to determine the classification of the space. Also test before entry and regularly during entry.
- Make the space safe for entry by eliminating atmospheric and physical hazards.
- Certify control measures taken, classify the space based on whether hazards have been eliminated, and post the permit if a permit required space.
- Ensure additional controls for attendant-required spaces.
- Authorize entry by Entry Supervisor.
- Do the work safely and,
- End the permit if applicable.

These steps are also on the permit. The rest of this program explains each of these steps.

Permit vs. Non-Permit Confined Spaces

If any hazards remain that you cannot eliminate or control by ventilation alone, or if work releases additional hazards, the space is classified as a permit-required confined space and requires an Attendant. Provisions for rescue are also necessary.

If hazards remain, only authorized and trained Entrants can enter the Attendant-required confined space. The Entry Supervisor lists the Entrants on the Confined Space Entry Authorization Permit.

The Entry Supervisor must inform employees of the hazards present. The Entry Supervisors briefs the Entrant(s) and Attendant on planned emergency rescue methods and verifies that rescue equipment, procedures, and rescue personnel are available. Entrant(s) must read the permit and sign the permit before entry and entrants must evacuate the confined space when:

- Atmospheric monitoring alarms sound
- Respirators fail
- Forced-air ventilation stops
- The Attendant tells them to leave the space
- The Attendant informs them of problems

Entrants must promptly begin self-rescue when any of the above occurs.

Test the Space for Atmospheric Hazards before Entry
Without entering the confined space, test in the following order the internal atmosphere for the presence of:

- Oxygen
- Flammable gas
- Toxic substances (what to test for depends on the hazard assessment)

For each atmospheric test, monitor the space at different levels and in any unusual configurations. The shape of a space may trap gases in unexpected areas. Record test results on the permit.

As part of the testing process, the Entry Supervisor must identify safe conditions for entry. Hazardous conditions that prohibit entry include:

- An oxygen-deficient (less than 19.5%) atmosphere, which can cause suffocation.
- An oxygen-enriched (more than 23.5%) atmosphere, which can cause an extreme fire hazard.
- A potentially explosive atmosphere caused by the presence of combustible gases, liquids, vapors, or dust at greater that 10% of their lower flammable limit (LFL).
- A concentration of any hazardous substance above its OSHA permissible exposure limit (PEL) or above the exposure limit given on the MSDS.
- The presence of a physical hazard that is not controlled and immediately dangerous to life or health (IDLH) such as a liquid or solid that may engulf, exposed conductors that may electrocute, or uncontrolled energy that may escape.

Note: Only qualified and authorized individuals can operate monitoring instruments. Regularly field-calibrate the instruments. Follow the manufacturers written operating instructions and calibration procedures.

Make Space Safe For Entry

Do not enter the confined space if there is an uncontrolled hazardous atmosphere or physical hazard. If any readings are out of the normal range, identify the cause and perform corrective actions before entry. Perform tests again following the completion of control measure implementation.

Before entry, control or isolate all energy sources. Use the facility lockout and tagout program. Verify lockout by testing.

Drain, pump out, or otherwise empty the material in the space before entering. Use the best and most practical method to clean it.

Do not use protective clothing and respiratory protection as substitutes for cleaning and ventilating the confined space.

Where practical, use forced-air ventilation whenever employees are inside of any confined space. Use only clean air supplies for continuous forced-air ventilation so you do not increase the hazards in the confined space. Do not contaminate the air supply with engine exhaust.

Never use oxygen to purge or ventilate any confined space. Injury or death may occur from the highly explosive atmosphere generated.

Other important control measures prior to entry include:

- Briefing entrants on hazards and control measures.
- Notifying contractors of the permit space and hazardous conditions.
- Testing and verifying lockout and tagout of known and potential hazardous energy sources.

Certify Control Measures, Obtain Approval and Post Permit

After certification by the Entry Supervisor that conditions are now acceptable, it is safe to enter the hazard-controlled confined space. Post the permit as a certification to those entering the confined space that the hazards have been eliminated.

Normal work activities can proceed as long as there are no hazards present in the space. Do not take hazardous materials into the confined space or carry out welding activities or open flame work that could introduce new hazards or cause existing hazards to intensify. Conduct continuous air monitoring while an Entrant is in any confined space.

Allow Entry after Supervisor Reviews and Approves Permit

The Entry Supervisor authorizes entry into the confined space only after all safeguards have been executed. The Entry Supervisor must review the permit before allowing employees into the permit-required confined space. In the review, the Entry Supervisor must:

- Identify the confined space and work to be done.
- Anticipate and protect against hazards that the work might create (solvent use, hot work, and paint/coating removal or application).
- Identify the permit-required confined space hazards.
- Determine and identify on the permit the actual and potential hazards of the entry.
- Test the atmosphere in the space before initial entry and ensure continuous monitoring.
- Ensure that a safe atmosphere is maintained inside the space by testing and inspecting.
- Make the space safe before entry.
- Ensure control measures are taken to reduce and eliminate atmospheric and physical hazards.
- Certify the control measures taken and classify the space.
- Classify the space as hazard-controlled, forced-ventilation, or attendant-required.
- List the authorized Entrants.
- Tell the Entrants of the hazards involved and precautions to follow before entry.
- List the authorized Attendant(s).
- Ensure the Attendant knows the work, can summon help, and can communicate with the Entrants inside.
- Ensure the availability of an emergency rescue team.
- Verify that rescue services and an operating means for summoning them are available.
- Obtain the equipment required for entry and safe work practices.
- Ensure necessary equipment and work practices are used to maintain the safe conditions the permit requires.
- Issue and post a confined space entry permit at the entrance of the confined space before allowing Entrants to enter the space.
- Notify the emergency rescue team when the confined space entry is completed.

End the Entry

The Entry Supervisor ends the entry upon work completion, if unsafe conditions are detected, or an emergency rescue team is unavailable.

Upon work completion, the Entrant(s), retrieves tools or equipment and cleans up the space as necessary before ending the entry. Check to make sure no one is in the confined space and all measures required to bring the confined space back to normal service have been performed and notifies the Entry Supervisor.

Reversing lockout or other safety procedures may be necessary. This may include:

- Unblocking mechanical parts so they can move freely.
- Securing the hatch or manhole cover.
- Removing blinds from lines and pipes.
- Removing locks and tags from energy sources.
- Testing to be sure sources are working.

After ensuring the space has been returned to the proper conditions, the Entry Leader:

- Removes the permit.
- Signs and dates the permit.
- Documents problems encountered during the entry and provides suggestions to avoid these problems.
- Returns the completed permit to the Confined Space Program Administrator.
- Notifies the emergency rescue team that the confined space entry has been completed.

Perform Work Safely in Hazard-Controlled and Forced Ventilation Spaces

The Entry Supervisor may limit the number of Entrants and restrict activities within the confined space in order to maintain the initial level of safety.

The Entrant(s) must immediately notify the Entry Supervisor and leave the confined space if the continuous air monitoring detects a hazard or if additional hazards are discovered or created, or if the ventilator stops operating. If any of these occur, treat the confined space as a permit-required confined space until safe conditions can be restored and are documented on the permit.

Welding in Confined Spaces

You must use continuous forced-air ventilation whenever you weld or burn inside a permit required confined space or use other oxygen-consuming equipment. You must also complete a hot work permit.

When you use continuous forced-air ventilation, begin ventilation before entering and direct it to the work area. Ventilating must continue until all employees leave the confined space.

Provide an Attendant During Entry

An Attendant stays outside the entrance to the confined space and performs no other tasks whenever Entrant(s) is inside an attendant-required confined space. The Entry Supervisor lists the Attendant on the Confined Space Entry Authorization Permit. Attendants must read and sign the permit. Entrants and Attendants may rotate duties if trained in both designations. The Entry Supervisor may also be the Attendant.

The Attendant's duties include:

- Establishing and maintaining communication with the Entrant(s) at all times.
- Monitoring the Entrant(s) for signs of illness, overexposure, or other hazardous conditions.
- Informing Entrant(s) of changes in hazardous conditions so they can leave.
- Having a means to summon help in an emergency.
- Calling the rescue team when self-rescue by the Entrant(s) is not possible.
- Calling the appropriate Entry Supervisor to announce the location and the extent of the problem. The Attendant and/or Entry Supervisor directs the rescue team to the confined space location.
- Never entering the confined space for any reason.
- Informing the rescue team of the hazards present.

Provide Personal Protective Equipment, Lifeline and Harness

A non-entry rescue is the safest and fastest method for Entrant rescue because the rescuer does not enter the confined space. To perform a non-entry rescue, attach a body harness and a retrieval line to the Entrant(s) before he or she enters the confined space. Use a mechanical winch to raise an Entrant out of the confined space.

Note: Although the Attendant is not allowed to enter the confined space, he or she can perform a non-entry rescue.

Notify Contractors

Give contractors a copy of this program and hold them responsible for following an equivalent program of their own. Ensure that contractors will not enter confined spaces without proper precautions, or create confined space hazards for **Waimanalo Gulch Sanitary Landfill** employees.

Train Entrants, Attendants, and Entry Supervisors

Waimanalo Gulch Sanitary Landfill ensures that all affected employees receive training. Employees who do not enter confined spaces are trained to identify confined spaces and stay out of them unless the hazards have been eliminated.

Employees receive training prior to assignment as Attendants, Entrants, and Entry Supervisors. Training provides the understanding, knowledge, and skills necessary for the safe performance of the duties assigned.

Waimanalo Gulch Sanitary Landfill provides training at the following times:
- Before the employee is first assigned confined space duties.
- Whenever there is reason to believe there are inadequacies in the employee's knowledge.

Waimanalo Gulch Sanitary Landfill documents the training using Safety Training Attendance Form. Documentation includes:

- The date of training.
- A brief description of the material covered.
- The names and signatures of the employees trained.
- The name of the individual conducting the training.

Responsibility

Identify the name and the title of the person responsible for the facility confined space entry program and reviewing and updating the confined space entry program annually:

Name: Joseph Whelan Title: Site Manager

List all confined spaces present at the facility including their locations:
WGSL Flare
Condensate Tanks
Leachate Tanks
Wastewater Tank
Fuel Tanks
Petroleum Tanks

Briefly describe criteria used to determine if a confined space did not require permit for entry spaces at the facility:

WM only uses contractors to perform confined space entry. Contractors will determine if confined spaces are permit required or non-permit required confined space.

Briefly describe the procedures followed to assure that the non-permit spaces will remain non-permit spaces during entry procedure:

WM only uses contractors to perform confined space entry.

Identify the name(s) and title(s) of the person(s) who perform the above hazardous assessments:

Various contractors with confined space entry experience.

The remainder of this plan must be completed for facilities with permit required confined space only. Activities may, however, change the status of the space (permit versus non-permit).

Acceptable Entry Conditions

Briefly describe the tests performed (or data available) to ensure that conditions in confined spaces are acceptable for entry:

WM only uses contractors to perform confined space entry. Contractors will determine if confined spaces are permit required or non-permit required confined space.

Identification and Labeling of Confined Spaces

Describe the signs, labels or markings used to identify permit required confined spaces at the facility:

"Confined Space" signs are posted on confined spaces. All confined spaces are further evaluated by the contractor to determine if the space is permit required or non-permit required.

Ventilation

Identify the ventilation equipment used at the facility:

Contractor to provide.

Air Monitoring

Identify any facility-specific contaminants that are monitored in confined spaces:

Contractor to determine based on actual confined space.

List the monitor(s) that must be present in confined spaces when Authorized Entrants occupy them:

Contractor to provide own certified and calibrated monitoring device.

Monitor:N/A **Model:N/A** **Calibration Date:N/A**

Personnel Roles

Identify the titles used for confined space personnel if different from those used to in this program:
Contractor to provide.

Confined Space Entry Permit

Attach the confined space entry permit used at the facility if different from the one provided in the Appendix.

Emergency Procedures

Briefly describe emergency procedures followed at the facility for confined space accidents, injuries or illnesses: All accidents or illnesses should be reported to a supervisor. Supervisor will determine what if any first aid is necessary. If medical attention is necessary, supervisor or others will call ambulance (911).

If the emergency rescue team is contacted by phone, include the phone number dialed to reach the team:

911

Training

Briefly describe the topics covered and materials used to train:

To be determined by confined space entry contractor.

Briefly describe simulated rescues performed as part of training for all team members:
To be performed by confined space contractor.

Contractor Provisions

Describe any facility-specific procedures or policies regarding contractors and leased employees who perform work in confined spaces at the facility:
Contractor must have health and safety plan that includes confined space training.

List all printed materials provided to contractors or leased employees who performed confined space entry at the facility:
Copy of this program for contractor's review.

Recordkeeping

Location of the confined space permit file at facility:
Contractors retain records of confined space entry.

Location of training records for the confined space program at the facility:
File cabinet on second floor of office. Contractors keep own confined space training records.

DEFINITIONS

***Acceptable entry conditions*:** The conditions that must exist in a confined space to allow entry and to ensure that employees involved in a permit-required confined space entry can safely enter into and work within the space.

***Forced-Ventilation Confined Space*:** A confined space where the only hazard remaining is one that can be controlled by forced ventilation.

***Non-Permit Confined Space*:** A confined space where all the hazards are controlled prior to entry, and none are brought into the space.

***Combustible Dust*:** A dust capable of undergoing combustion or burning when subjected to a source of ignition.

***Engulfment*:** the surrounding and effective capture of a person by a liquid or finely divided (flow able) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

***Entry*:** The action by which a person passes through an opening into a permit-required confined space. Entry includes work activities in the space and is considered to have occurred as soon as any part of the Entrant's body breaks the plane of an opening into the confined space.

***Entry Permit*:** The written or printed document that the employer provides which contains the necessary information to allow and control entry into a permit space.

***Hot Work*:** Any work involving burning, welding, riveting, or similar fire-producing operations, as well as work which produces a source of ignition, such as drilling, abrasive blasting, and space heating.

***Hazardous Atmosphere*:** An atmosphere that may expose employees to the risk of death, incapacitation, impairment or ability to self-rescue injury, or acute illness from one or more of the following causes:

- A flammable atmosphere in excess of 10% of the LFL (lower flammable limit) for the material.
- Airborne combustible dust at a concentration that meets or exceeds its LFL.
- Atmospheric oxygen concentration below 19.5% or above 23.5%.
- Exposure to an atmospheric concentration of any substance that a dose or PEL is published by the Occupational Safety and Health Administration (OSHA) that may result in employee exposure to the substance in excess of that dose or PEL.
- Any other atmospheric condition that is immediately dangerous to life or health.

***Isolation*:** A process whereby the confined space is removed from service and completely protected against the inadvertent release of material and hazardous energy by the following: blanking off (skillet type metal blank between flanges), misaligning sections of all lines and pipes, locking out all sources of power, and blocking or disconnecting all mechanical linkages.

***Lower Flammable Limit (LFL)*:** The lower limit of flammability of a gas or vapor at ordinary ambient temperature expressed in a percentage of the gas or vapor in air by volume.

***Oxygen Deficiency*:** Refers to an atmosphere containing less than 19.5% oxygen.

***Oxygen Enriched*:** An atmosphere containing an oxygen concentration greater than 23.5%.

Threshold Limit Value (TLV): The airborne concentration of a substance established by the American Conference of Governmental Hygienists (ACGIH) representing a condition under which it is believed that nearly all workers may be repeatedly exposed without adverse effect.

District
WAIMANALO GULCH SANITARY LANDFILL

Location / Description	Comb. by Products	Chemical	Mechanical	Engulfment	Entrapment	Electrical	Decay Waste	Pressure/ Heat	Other	Permit Required	Not Required

PERMIT-REQUIRED CONFINED SPACE DETERMINATION WORKSHEET

Space Being Evaluated: _____

Work To Be Performed: _____

Step 1. Is the space…

	Yes	No
1) Large enough for a body to enter		
2) Limited or restricted means of entry or exit		
3) Not designated for continuous occupancy		

If the answer to **ALL** three questions above is "Yes," it is a **"Confined Space"** - Go to Step 2. If the answer to any of the questions is "No," it is not a confined space – Proceed to Step 3, Sign, Date and Keep On File.

Step 2. Does the confined space have one or more of the following:

	Yes	No
1) Contains or has a potential to contain hazardous atmosphere (OR)		
a) 10% LEL (Lower Explosion Limit) – Flammable/Combustible gasses b) Dust Concentrations > LEL Dust c) O_2 level is > 19.5% or < 23.5% d) OSHA PEL (Permissible Exposure Limit) Exceeded e) IDLH (Immediately-Dangerous-to-life-or-Health) Atmosphere (See *Definitions* for further detail)		
2) Engulfment (completely surrounded by)examples – cave-in, drowning, buried		
3) Trapped or asphyxiated by inwardly converging walls		
4) Is there a serious safety of health hazard that cannot be completely eliminated through lockout/tagout? Attach Lockout/Tagout Procedure to this document.		

If the answer to **ANY** of the above questions in Step 2 is "Yes," the space is considered to be a "Permit Required Confined Space." Contact your Regional or Corporate Safety Manager to discuss requirements for entry into the space. If the answer to ALL of the questions is "no," the space is considered to be a "Confined Space" only. In either case, proceed to Step 3 of the Worksheet, Sign, Date, Keep On File.

Step 3. Check the appropriate box

	Not A Confined Space
	Confined Space
	Permit-Required Space

_____ _____ _____
Signature Print Name Date

Comments: _____

_____

_____

_____

_____

CONFINED SPACE ENTRY PERMIT	PERMIT NO.

1. Identify Space And Work To Be Done

Space to Be Entered

Location/Building

Hazardous Materials to be Taken Into or Hazardous Work to Be Done in Space

Purpose of Entry

Authorization Duration of Permit	Date:	From	To	Time:	From	To

2. Identify Permit Space Hazards
(Indicate Specific Hazards Which May be Present)

- ❒ Unsafe to Remove Cover, Excess Pressure
- ❒ Excess Heat
- ❒ Oxygen Deficiency (Less than 19.5%)
- ❒ Oxygen Enrichment (Greater than 23.5%)
- ❒ Flammable Gasses or Vapors (Greater than 10% of LEL)
- ❒ Airborne Combustible Dust (Greater than 10% of LEL)
- ❒ Toxic Gases or Vapors (Greater than PEL)
- ❒ Mechanical Hazards
- ❒ Electrical Shock
- ❒ Materials Harmful to Skin
- ❒ Engulfment, Falling Slag
- ❒ Other: _____

4. Make Space Before Entry
(Check After Steps Have Been Taken)

- ❒ Notify Affected Department of Service Interruption

Isolation Methods

- ❒ Blank/Blind
- ❒ Inert
- ❒ Lockout/Tagout
- ❒ Other: Continuous Ventilation _____
- ❒ Clearance Procedure
- ❒ Purge/Clean
- ❒ Atmospheric Test
- ❒ Barriers

Personal Awareness

- ❒ Pre-entry Briefing on Specific Hazards, Control Methods and Emergency Action Plan
- ❒ Notify Contractors of Permit and Hazard Conditions
- ❒ Test/Verify Hazard Energy Control
- ❒ Other _____
- ❒ Additional Permits Required and/or Attached
- ❒ Hot work
- ❒ Other

3. TEST SPACE BEFORE INITIAL ENTRY & REGULARLY THEREAFTER (And Before Open Flame Work)

Material	Normal Air	Acceptable Entry Conditions	Initial Test : AM/PM	Result : AM/PM	Result : AM/PM
Oxygen-min/max	20.9	> 19.5% < 23.5%			
flammability	0	< 10% LEL/LFL			
Hydrogen Sulfide	0	< 10 ppm			
Carbon monoxide	0	< 50 ppm			
Chlorine	0	< 0.5 ppm			
Sulfur dioxide	0	< 2 ppm			
Other (Specify)					
Tester Initials					

Always investigate before entry if conditions do not match normal air.

5. Certify Control Measures Taken, Classify Space, And Post Permit

	Low Hazard – All hazards are eliminated; none to be released by work. Follow basic safety precautions for the work.
	Ventilation Controlled – Only environmental hazards remain or will be released by work, which are controllable by ventilation. Ventilate before and during entry, with regular tests to ensure safety of air in the space.
	Attendant Required – Atmospheric and/or physical hazard remains. SKIP SECTIONS 6 & 7 BELOW; **GO TO PAGE 2 AND COMPLETE**

Entry Leader Printed Name	Date

Entry Leader Signature

6. Authorization By Entry Supervisor To Enter Reclassified Nonpermit-Required Space
I certify that all required precautions have been taken and necessary equipment is provided for safe entry and work in this confined space, and that the space is not attendant-required.

Printed Name	Date

Signature

7. End Entry (For All Spaces)
I have checked the space to make sure no one is in it, and all measures required to return it back to normal service have been performed. I authorize the return of this space to normal service.
Problems That Occurred
Suggestions

Entry Supervisor Printed Name	Date

Entry Supervisor Signature

THIS PERMIT MUST BE POSTED AT SPACE ENTRANCE • PERMIT GOOD ONLY FOR THE DURATION OF THE JOB NO LIMIT ON HAZARD-CONTROLLED OR FORCED-VENTILATION SPACE UNLESS HAZARDS CHANGE CHECK BEFORE ENTRY
8. List/Signature Of Authorized Entrants (List by Name or Attach Roster)
9. List/Signature of Authorized Attendants (List by Name)
10. Ensure Emergency Rescue Available
Control Room Notified Prior to Entry (Plants)
Rescue Phone Number
Method of Contact

11. Authorization by Entry Supervisor to Enter Attendant-Required Space	
I certify that all required precautions have been taken and necessary equipment is provided for safe entry and work in this confined space, and that the space is not attendant-required.	
Printed Name	Date
Signature	

12. Obtain Equipment Required for Entry and Work

Establish Communication Procedures to be Used by Attendants and Entrants

Specify as Required:

Personal Protective Equipment
Continuous or Period Atmospheric Testing/Monitoring
Respiratory Protection Equipment
Rescue Equipment
Other

13. End Entry (For All Spaces)

I have checked the space to make sure no one is in it, and all measures required to return it back to normal service have been performed. I authorize the return of this space to normal service.	
Problems that Occurred	
Suggestions	
Entry Supervisor Printed Name	Date
Signature	

THIS PERMIT MUST BE POSTED AT SPACE ENTRANCE • PERMIT GOOD ONLY FOR THE DURATION OF THE JOB
NO LIMIT ON HAZARD-CONTROLLED OR VENTILATION-VENTILATION SPACE UNLESS HAZARDS CHANGE
CHECK BEFORE ENTRY